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Working Paper
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Thoughts on the History of War and Armed Conflict

by Gregory P. Gilbert

ABOUT THE AUTHOR

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INTRODUCTION

For many air force people the need for *technical mastery* is self-evident—in order to do their day to day job they need appropriate knowledge, training, experience and skills—but unfortunately recognition of gaining *professional mastery* in the application of air power is often counter-intuitive. Today the Royal Australian Air Force (RAAF) recognises that every member needs to understand the 'family business' of air power. While the required level of understanding will vary with each individual and unit, a sound knowledge of the history of war and armed conflict is an essential part of the education process.[1]

This working paper discusses certain aspects of the history of war and armed conflict that can help inform the RAAF understanding of air power. The intention is to specifically avoid discussing the traditional 'history of air power', which is limited to the last 100 years or so, and to concentrate on the history of war and armed conflict in the long term. Now that 21st century warfare has recognised the critical importance of 'people' to the application of military power, it is equally, if not more important, for air power practitioners to understand how their actions can and will generate effects on the surface 'amongst the people'. Academic works such as Azar Gat's *War in Human Civilisation* and Martin van Creveld's *The Transformation of War* can help inform Air Force people just as much as they inform our Army and Navy brothers.[2]

This paper includes a short examination of how war and armed conflict has evolved and discusses why it is important to the RAAF. It then describes how land, sea and air power have developed over time, and identifies important attributes of how each of these forms of military power can differ when applied. The joint approach to war and armed conflict is then discussed along with several examples of how the desired effects have been achieved. Finally, there is a short comment on command in the Australian Defence Force (ADF).

The points of view expressed in this working paper are the author's own and they do not necessarily reflect Defence, ADF or RAAF positions. Indeed much of the content of this paper is intentionally controversial—the views expressed are neither right nor wrong. The conceptual basis for the points raised within this paper is not all that new; they represent a re-evaluation of contemporary thinking on war and armed conflict for an

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[1] This working paper expands upon the ideas raised within the historical component of the Air Power Trainers Course conducted by Air Power Development Centre (APDC).

[2] Azar Gat, *War in Human Civilization*, Oxford University Press, Oxford, 2006, and Martin van Creveld, *The Transformation of War*, Free Press, New York, 1991.

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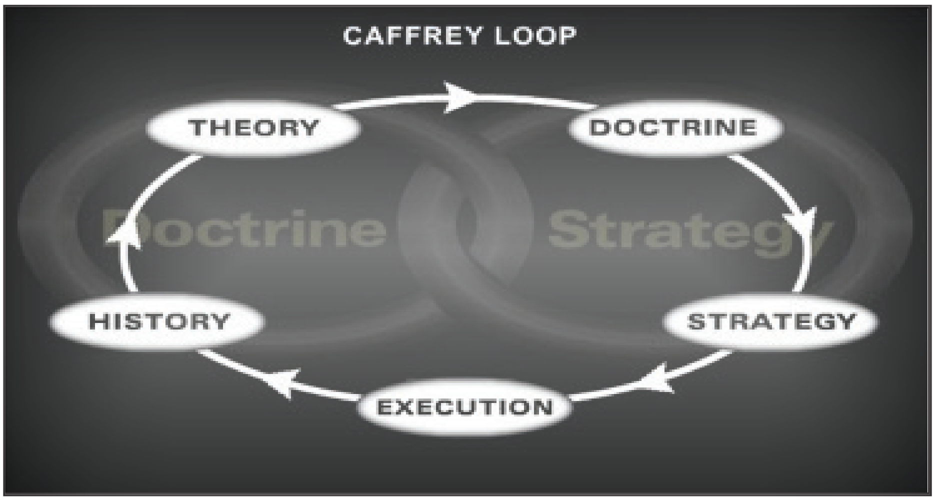
Australian audience. The aim is to generate comment within and outside Air Force, hopefully exposing those who would not normally be exposed to such ways of thinking and to generate thought. It is also aimed at those who want to understand how joint military power relates to air forces. These views are meant to generate interest and discussion.

MILITARY HISTORY FOR THE AIR FORCE

Our knowledge of air power is premised upon over 10 000 years of military history.[3] In order to apply air power effectively it is necessary to understand how all forms of military power—in the air, at sea and on land—have evolved over time. The Australian experience of air power has not developed in isolation, rather it has been constructed upon the foundations of Western military history. History provides the link between doctrine and strategy. It interprets the records that arise from the execution of military campaigns, operations and activities. It helps to inform the theory, doctrine and strategy that in turn underpins the planning and execution of future military campaigns, operations and activities. This cycle, in its simplest form, is known as the Caffrey Loop—the cycle is named after the Professor Matthew B. Caffrey, Jr. of the US Air Command and Staff College.



The Caffrey Loop [4]

The study of war throughout the history of humanity is just as relevant to the airman as it is to the soldier or sailor. As members of the Profession of Arms all airmen, as professionals, have to develop an understanding of war.[5] This is not limited to the technical application of weapons or the best tactics for a situation, neither is it limited to how best to conduct an operation or fight a campaign. It involves developing, over time, a thorough knowledge and understanding of all aspects of war and armed conflicts. History is a means to learn from past experiences, to benefit from the best methods of our predecessors, and to avoid common mistakes. Although we do not refight the same battles from history, we can appreciate the experiences of those members of the Profession of Arms who have come before us.

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[3] The author's assertion that our understanding of air power history, and by inference the application of air power, is based upon 10 000 years of military history is not readily accepted by all air power practitioners. However, the author believes that for air forces to take their place as equals alongside their military and naval counterparts, practitioners have to study military power over the *longue durée*.

[4] United States Air Force (USAF), 'Doctrine-Strategy Link', Air and Space Power Course, Air University Distance Learning, www.apc.maxwell.af.mil/main.htm, accessed 19 September 2012. The Caffrey Loop is an introductory representation of a complex phenomenon. In practice, the influences on doctrinal development are not so linear. For further discussion see Sanu Kainikara, *A Fresh Look at Air Power Doctrine*, Air Power Development Centre, Canberra, 2006, pp. 19-31.

[5] John W. Hackett, *The Profession of Arms*, Sidgwick & Jackson, London, 1983.

> *The function of the profession of arms is the ordered application of force in the resolution of a social problem.*
>
> —General Sir John W. Hackett [6]

People who serve in our armed services, members of the Profession of Arms, have distinct responsibilities that set them apart from other members of society. Members of society are not permitted to take life; the law positively demands it. Members of the armed services, however, may be required to take life at the direction of the properly constituted authority under which a society lives and is regulated. However we must also not forget that there is a close connection between the dominant political characteristics of a society and their military establishments. The social characteristics of a society are also reflected in the pattern of its armed forces. As a liberal democratic society with egalitarian values, Australia generates a defence force that reflects such characteristics.

Air force personnel need to be competent at what they do as individuals, an essential ingredient in making the organisation function efficiently at the basic level. Individually, the necessary competence that ensures a person's ability to carry out specific functions within the system that produces air power is called *technical mastery*. On the other hand, for the RAAF to achieve the most appropriate, effective and efficient way to generate and employ air power, *professional mastery* is required.[7] For Air Force people, *professional mastery* involves having a clear understanding of all aspects of air operations in order to ensure that air power is optimised to meet the three fundamental principles of the application of force—necessity, discrimination and proportionality. Air operations, tailored to create the necessary effects, must be carefully integrated into the joint campaign to achieve the desired end-state. Only an air force with sufficient professionalism and resident skills will be able to achieve the integration necessary to adapt rapidly to emerging and dynamic challenges. One of the ways that the RAAF can develop and maintain *professional mastery* is through applied historical analysis and armed conflicts. For the RAAF, the highest level of *professional mastery* includes a knowledge and understanding of the application of air, sea and land power in their Australian, regional and global contexts.

THE EVOLUTION OF WAR

Conflict is as old as human-kind and history is one long record of war and conflict. War has always been a human enterprise. Prehistoric rock paintings in South Africa, Sahara and Spain that depict men fighting, and human remains from 15 000 BC onwards confirm the deadly results of early conflict. Written records from Egypt and Mesopotamia describe the use of military forces from c.3000 BC, and in China there is conclusive evidence of warfare from at least the time of Sun Tzu c.500 BC. Although some philosophers believe that the past was a Rousseauian peace where primitive man was a 'noble savage', there is significant evidence for a Hobbesian struggle of 'every man against every man'.[8] Studies of the anthropology of war reveal that actual armed conflicts were much more complicated than such philosophical theories suggest. No community could be constantly at war without leading to its own destruction and hence they imposed social and cultural limitations to the conduct of war. Highly ritualised 'battles' were common between powerful communities that used customs and traditions to limit the consequences of war in what was essentially an early form of the Rules of Engagement (ROE).[9] However casualties did mount up, and massacres still did occur when one community was considerably weaker than their opponents. Over time these customs and traditions developed into commonly accepted laws of war. Anthropologists generally see war as a period of armed hostility (violent or non-violent) between political communities, involving legitimate actions of one community's members against their opponents. For much of human history wars have been fought between different communities and/or social groups. This experience, which is often ignored in contemporary studies on war, resonates throughout the age. Wars were fought for thousands of years before modern states were even thought of—a time when non-state actors were the norm.

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[6] Hackett, *The Profession of Arms*.

[7] Air Power Development Centre, 'Professional Mastery in the Application of Air Power' *Pathfinder*, Issue 51, August 2006, available online at airpower.airforce.gov.au/Publications/List/41/Pathfinder. aspx?page=7, accessed 19 September 2012.

[8] Doyne Dawson, *The First Armies*, Cassell, London, 2001, pp. 22-43.

[9] Mervyn J. Meggitt, *Blood is their Argument: Warfare among the Mae Enga Tribesmen of the New Guinea Highlands*, Mayfield, California, 1977.

Much of our military history is centred upon war between modern nation states, in an international system that only dates back some 360 years, to the Treaty of Westphalia in 1648. Today, our international law is fundamentally based upon the nation state system. It can be seen in our doctrine's legal definitions that differentiate between 'war' and 'armed conflict'. War is a formally declared conflict between two states. To be legal, that declaration must meet the requirements of Chapter 7 of the *UN Charter* 1945. Armed conflict is where one or more states have resorted to the use, or threat of use, of armed force in achieving its aims. Because of the legal requirements and the complexities of the modern world, armed conflict is more common than declared 'war'.

Armed conflict is a fundamental part of humanity that has influenced history, society, culture, industry and technology. It can be controlled and limited but it can never be totally stamped out or replaced. Nevertheless for most Australians armed conflict is abhorrent. As a nation, support for Anzac Day is far greater than that for Australia Day. Our society shuns war but embraces its commemoration: we despise killing but honour those service men and women who fight. The Australian approach to modern conflict is mostly characterised by the *Western Approach to War*, in that our modern military thought and doctrine can be traced back to ancient times—to Greece and Rome.[10] Most of the theorists that influence our military thought today were in turn influenced by Greek and Roman military models. This does not mean that the *Western Approach to War* has not changed; rather the key characteristic of the modern western approach is evolution through learning. Western warfare has been shaped by seven factors: technology, theory, the human element, discipline, surprise, economic strength and war plans. The very nature of war does not change; rather how we apply military power is that which is constantly changing.

In Classical Greece and Republican Rome, war was made by the people. In Imperial Rome, the Middle Ages and the Renaissance period, war was made by rulers. From the signing of the Treaty of Westphalia, through Napoleonic times until the present day, war has been made by nation states. It is this view of war that is reflected in current ADF doctrine. The French Revolutionary and Napoleonic wars were characterised by revolutionary nations in arms where, to defend the revolution, it was necessary to defend the motherland. The French way of war involved mass attacks by conscript armies using 'columns' and *tirailleurs* (skirmishers). In contrast, the British approach to war was that of a maritime nation, relying upon manoeuvre, expeditions, navies and economic subsidies (in support of their continental allies) to bring about the total destruction of their enemy.

During the 20th century, World Wars I and II were global wars, fought between nations that were economically and culturally interdependent. They involved coalitions of nations conducting joint campaigns to achieve strategic goals. The World Wars were also signposts for a newly emergent *Western Approach to War*, which emphasised the use of technology such as tanks, warships and aircraft, to reduce the burden of the infantry on the battlefield. During the early part of the 20th century the application of military power in terms of a combination incorporating a single key power supported by the other two powers was conceptualised in the minds of military thinkers, and soon the consensus that land power was key and that it was supported by sea and air power was challenged. Historical events confirmed circumstances where sea power was key while land and air power were subordinate, as well as other circumstances where land and sea power were subordinate to air power. Somewhat surprisingly such evidence was quickly subsumed by misleading public perceptions and historical myth.

Throughout much of the history of the Western military tradition, land power, in particular infantry, has been the key force in the application of military power. This view of military power unfortunately still dominates popular culture in the West. Richard Hallion has observed that 'As a consequence this kind of warfare—brutal, costly, and inconclusive consistent with traditionalist assumptions and pre-1914 military experience—is seen as normative war.'[11] The land-centric perception was challenged by sea power with the rise of maritime states during the 18th and 19th centuries but land power remained dominant amongst the states of Continental Europe. The military thinker Carl von Clausewitz and the Prussian military example remained a powerful model for armed forces around the world, which effectively countered the British sea power model.[12] Air power was seen as a revolutionary way of war during World War I but it lacked the technological sophistication to achieve its revolutionary potential. World War II was a false dawn for air power, but the military history recorded over the last twenty years or so has now confirmed air power as the key force in the application of Western military power. Some commentators have suggested that, since September 2001 and the start of the Global War on Terror, the *Western Approach to War* has evolved into a new phase of war against global non-state groups, while others concerned over the rise of military powers in the Asia-Pacific region warn of a return to traditional state on state conflict. One thing is certain, military thought continues to evolve based on an informed reading and understanding of the past. As airmen, we need to understand all aspects of military power to operate in the ADF's joint construct.

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[10] For example see Victor D. Hanson, *Carnage and Culture: Landmark Battles in the Rise to Western Power*, Anchor, 2001, and his *The Western Way of War: Infantry Battle in Classical Greece*, Hodder and Stoughton, London, 1989. For original ideas on this approach see Russell F. Weigley, *The American Way of Way: A History of United States Military Strategy and Policy,* Macmillan, New York, 1973.

> *In short, successful joint warfare depends on an intimate knowledge of the special characteristics that each environmental service brings to the prosecution of operations.*
>
> —Michael Evans [13]

LAND POWER

Land power is concerned with the ability 'to capture, occupy and hold ground'- it involves winning decisive battles and occupying territory.[14] Modern land power advocates see ground forces as the most versatile instrument of policy that can be wielded by a state across the spectrum of operations, in peace and in war. Most land power advocates agree that you don't win a major war unless you hold the ground, and there is only one way that this can be done: with infantry. The other elements of land power cannot hold ground by themselves; indeed the other Army arms and services exist to support the infantry. Such advocates also see land power as the most powerful symbolic expression of a nation's commitment and determination when engaged in military operations. Many Australians, as well as citizens of other nations, perceive the deployment of land forces as the main guarantee of diplomatic and strategic commitment. In the post-modern era of security 'amongst the people' and 'three-block war', land power has evolved into 'the ability to exert immediate and sustained influence on or from the land in conditions of peace, crisis and conflict.'

Airmen need to be able to apply air power effectively in circumstances where land power is key. Phillip Meilinger, in his book *Airwar: Theory and Practice*, has pointed out that, traditionally, armies have been used to operate against an enemy's military forces.[15]

In the past, a nation's industries and people (ie. the key Centres of Gravity (COGs)—the economy and the will), were protected by military forces. The losers in battle exposed their country's COGs to the victor's wrath. Military theorists saw defeat of the enemy army as the main COG because when the army fell so did resistance. When one nation in arms confronts another nation in arms, as they did in World War I, such direct methods of warfighting became far too bloody. Attrition on a grand scale could only be avoided if air power was used to support land power in its direct attacks upon the enemy's deployed forces. During World War II, the 1944-45 North-West Europe campaign was largely successful due to the air supremacy of the Allied air forces and their ability to destroy German military forces on the ground. Even then the Allied armies engaged in attrition warfare, which resulted in severe casualties to ground troops. The Russian Front involved attrition warfare on a massive scale.

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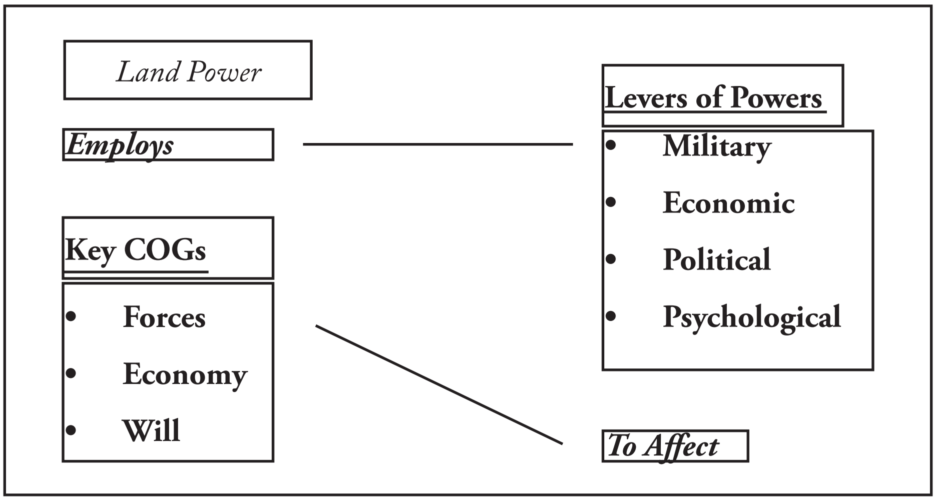
[11] Richard P. Hallion, 'Decisive Air Power prior to 1950', *Papers and Addresses on Air Power Topics,* Air Force Historical Studies Office, Washington, DC, undated.

[12] Carl von Clausewitz, *On War*, 1837 (and recent editions).

[13] Michael Evans, *The Continental School of Strategy: The Past, Present and Future of Land Power,* Land Warfare Studies Centre, Canberra, 2004.

[14] See Australian Army, *LWD 1, The Fundamentals of Land Warfare*, Land Warfare Doctrine Centre, Canberra, 2008.

[15] Much of the following discussion on land, sea and air power is an expanded version of the ideas raised by Meilinger. See Phillip S. Meilinger, *Airwar: Theory and Practice,* Frank Cass, London, 2003, pp. 170-86.



Land Power (after Meilinger)[16]

Historically, land power has either used attrition warfare to destroy the enemy army's ability to fight, or used manoeuvre warfare to destroy the enemy army's will to fight.[17] Direct attacks upon enemy forces were the norm from Napoleonic times until the last twenty years or so. Clausewitz's *On War* was a dominant influence throughout this period, although some 20th century military thinkers preferred the label of neo-Clausewitzian.[18] However the mass slaughter of citizen armies during World War I did lead some military thinkers, including

Basil H. Liddell-Hart, to argue for a return to manoeuvre warfare where it was envisaged that armies would defeat their opponents via an indirect approach. During 1917-18 Western armies, including the Australian Army, made significant changes that included technological advances in artillery and armour, but more significantly they adopted flexible tactics that enabled greater manoeuvre at the tactical level. Manoeuvre at the operational and strategic level was practiced by some leaders, Guderian and Patton for example, however they were not the norm. Much of World War II was fought with land power as the key component of joint military power and the attrition battles continued. One of the few exceptions occurred in the South West Pacific Area (SWPA) between 1943 and 1945, when US General Douglas MacArthur conducted a supremely successful campaign of manoeuvre—a so-called island hopping campaign—across New Guinea to the Philippines. However it can be argued that this SWPA campaign was really planned and executed with air power as the key force, with land and sea power in support, and that World War II era Australian Army doctrine probably limited its effective employment during the fast moving campaign of manoeuvre that MacArthur envisaged for late 1944 and 1945.

Land campaigns during the Korean War tended to follow along the lines of its World War II precedents. The Wars of Liberation fought during the second half of the 20th century, including the Vietnam War, were characterised by combinations of irregular and conventional approaches to warfare. In irregular warfare the deployed land forces themselves tended to become a COG for the Western nations, as freedom fighters, insurgents and terrorists directly targeted our willingness to suffer casualties in expeditionary wars of choice. During the 1980s, military thinkers re-examined the works on manoeuvre warfare and the indirect approach. John Boyd joined the ranks of luminaries such as Sun Tzu, B.H. Liddell Hart, André Beaufre, and J.F.C. Fuller.[19] Effects-based thinking helped strategists to focus on the psychological as well as the physical dimension of conflict. This led to a push to 'get into the minds' of the enemy—in effect to defeat the enemy's will to fight using manoeuvre warfare. Although this approach was itself a joint construct, the application of land power evolved into something that will be familiar to most land forces today.

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[16] Phillip S. Meilinger, *Airwar: Theory and Practice*, Frank Cass, London, 2003, pp. 170-86.

[17] As with most air power historical analyses, Meilinger's land power model is predicated upon 20th century state-on-state conflicts. Over the millennium, however, land power has often been applied to influence, deter, coerce or punish an opponent. For example, in ancient warfare the Assyrian army was renowned for engaging in various atrocities against cities they had captured after a siege: such actions sent a clear message to the people of other cities who were thinking of resisting the Assyrians. Thus land power has been used indirectly to affect the will and economic behaviour of an opponent.

[18] See introduction by Anatol Rapoport in Carl von Clausewitz, *On War*, Penguin, Harmondsworth, 1982.

> *Military tactics are like unto water; for water in its natural course runs away from high places and hastens downwards. So in war, the way is to avoid what is strong and to strike at what is weak.*
>
> —Sun Tzu [20]

To round off this short examination of land power, we should identify the ways that air power has been used to support operations when land power has been the key force in a campaign. Since the first use of aircraft in support of military forces in 1911, there have been many situations where air power has contributed to what was essentially a land campaign. For much of the 20th century these were known as 'tactical' air tasks, which were conducted by 'tactical' air forces. The air power contribution to past land operations has included the following tasks:[21]

- air superiority:
  - offensive counter air
  - defensive counter air (including air defence for land forces)
- offensive air support:
  - tactical strike
  - battlefield air interdiction
- battlefield support:
  - close air support (CAS)
  - tactical intelligence, surveillance and reconnaissance (ISR)
  - tactical air mobility
- inter-theatre air mobility (or strategic airlift)
- special operations support

This list is indicative of the historical experience. As such concepts and terminology change over time, it is always necessary to examine the current service doctrine to understand current practice. Of course it needs to be understood that a proportion of these air power tasks can and should be undertaken by air power elements other than an air force. The term 'air force' describes a discrete organisation whose primary function is to generate a nation's air power. An 'air arm' or an 'air corps' is an organisation that generates air power as a subordinate element of another Service, and hence caters specifically for their own particular Service needs. For example, the RAAF, Australian Army aviation units and Army air defence artillery units currently contribute, at least in part, to the tasks in support of land power.

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[19] See Defence and the National Interest, 'Boyd and Military Strategy', web page, 2007, dnipogo.org/strategy-and-force-employment/boyd-and-military-strategy/, accessed 19 September 2012, Colin S. Grey, *Modern Strategy*, Oxford University Press, Oxford, 1999, and Basil H. Liddell Hart, *Strategy*, 2nd revised edition., Penguin, London, 1991.

[20] Sun Tzu, *The Art of War*, transl. by Samuel B. Griffith, Oxford University Press, Oxford, 1971.

[21] These air power tasks in support of land power were prepared by the author using tasks identified in RAAF doctrine (various editions since 1990), Desmond Ball (ed.), *Air Power: Global Developments and Australian Perspectives*, Pergamon, Sydney, 1988, pp. 459-556, as well as from numerous other global air power historical examples.

SEA POWER

According to Royal Australian Navy (RAN) doctrine, sea power is 'the sum of all physical, demographic, geographic, economic, and military resources that are derived from or related to the sea and that are used by a nation to advance its national interests. More specifically sea power expresses a nation's ability to defend, by means of a navy and its adjuncts, its maritime interests.'[22] This comprehensive definition suggests that, for maritime nations like Australia, the application of sea power is more of a national interest than just the application of force by a navy. The maritime approach to war is premised upon the use of the sea for manoeuvre, but also incorporates the linkages between a nation's economy, its commerce, its geography and its navy. Modern maritime strategy is strongly influenced by the classical naval strategists Alfred T. Mahan and Julian Corbett.[23] Whereas Mahan believed that decisive naval battle could be used to attain sea supremacy for a maritime nation, Corbett counselled that 'control of the sea' for a limited time was all that was required 'to influence events ashore'. In many ways, the fundamental thinking on two-dimensional sea power was a precursor for the development of three-dimensional air power thinking.

As with land power, airmen need to understand the application of sea power as a subset of military power to be able to apply air power effectively in circumstances where sea power is key. The history of sea power extends back thousands of years to the time of ancient Egypt and the rise of early civilisations. Use of the sea to manoeuvre military forces over distance to where they could surprise and overwhelm their opponents was a decisive feature of many early maritime campaigns. Fighting between naval forces at sea evolved only to allow one side to effectively use the sea to influence events ashore. From time to time, navies have been able to directly influence events on the ground. They have fired against troops ashore and they have bombarded ports and coastal towns, but in such circumstances naval forces have often had to put themselves at great risk to achieve lasting effects. Armies have withdrawn a short distance inland to avoid naval bombardments, while coastal defences have been used to defend ports and coastal towns by generating capabilities that could inflict more damage upon a naval force than that force could inflict ashore. Thus it has always been difficult for navies to directly impact armies or events on the ground. Traditionally, as an alternative, maritime nations have relied upon indirect means to achieve their war aims, largely economic warfare in the form of blockades, embargoes and commerce raiding. Blockades strangle a nation state; they remove the raw materials and food required to keep war industries running and people fed, they stop production, and they gradually destroy a nation's ability and will to fight. Historically blockades have taken years to produce the desired strategic effects, but they have acted like a cement-roller that moves forward slowly but ultimately indiscriminately crushes everything in its path. Sea power employs indirect force against the military, economic and psychological power of their opponents to reduce their enemy military's ability to fight (through lack of munitions and supplies), their enemy's economy, and most significantly their enemy's will to fight.

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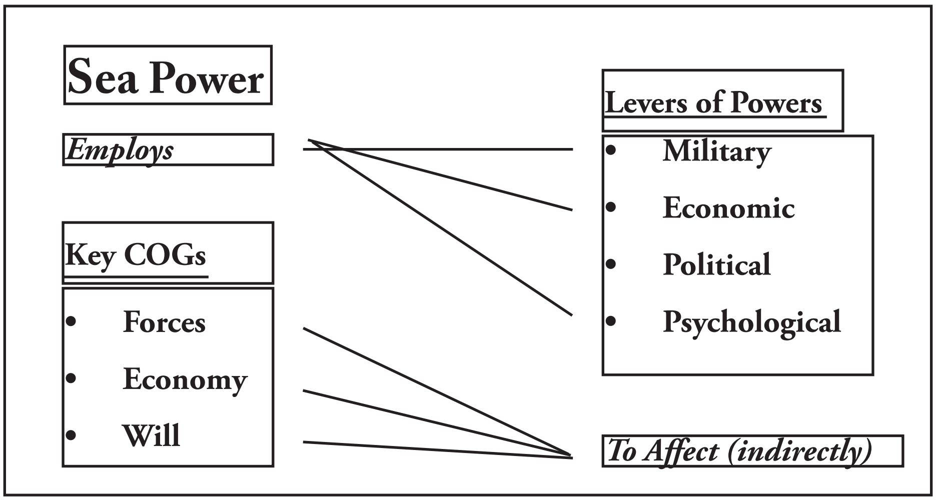
[22] See Royal Australian Navy, *RAN Doctrine 1: Australian Maritime Doctrine*, Sea Power Centre—Australia, Canberra, 2010.

[23] Alfred T. Mahan, *The Influence of Sea Power on History*, Little, Brown & Co, Boston, 1890and Julian Corbett, *Principles of Maritime Strategy*, Longmans, London, 1911.



Sea Power (after Meilinger)[24]

Prior to World War I, many campaigns were undertaken where sea power was the key force in military power. In many of these campaigns, naval power was supplemented by land forces (including marines under naval command) to considerably increase their effect on the ground. Historically such amphibious operations were best undertaken by trained maritime forces, which included sea and land power elements. World War I was a watershed for sea power. The introduction of aircraft and submarines broke down the traditional two-dimensional thinking about maritime strategy. It led to a period of major evolution, which in turn led to a three-dimensional understanding of sea power. The concept of sea control was adapted to include control of the air above the sea and control of the water column beneath the surface of the sea. In effect, modern sea power now incorporates the elements of air and sea power, as it is only as a system of systems that sea power can now be utilised on, above and under the sea. As a result it is not too difficult to imagine times when sea power will be the key force in future joint operations. That said, much of the sea power effort is centred on the ability to overcome enemy maritime forces.[25] Although it is not universal, many advocates of naval power remain committed to Mahan and his views of decisive battle at sea, and thus in naval eyes, the enemy's main COG remains the enemy deployed forces.

During World War I the Royal Naval Air Service (RNAS—a forerunner of the Royal Air Force and the Fleet Air Arm) conducted several air attacks against industrial targets in Germany. This tradition of air power enthusiasts working within navies has a modern counterpart in the crews of large fleet (or strike) carriers. Here we should be careful to separate in our own minds the two contexts; firstly of naval aviators who deliver air power directly as part of a campaign where air power is the key force in military power, and secondly those who deliver air power in support of a campaign where sea power is key. In practice such a separation is not necessary as the flexibility of air power often combines the two contexts seamlessly. This is one of the reasons behind the air power tenet 'centralised control and decentralised execution'.

Aircraft were first used in support of a maritime campaign by the Greeks in the Dardanelles during 1912, the year after their first use in a land campaign. Since then there have been many situations where air power has contributed to what was essentially a maritime campaign. The ways that air power has been used to support operations when sea power has been the key force in a campaign have included:

- air superiority:
  - » offensive counter air

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[24] Phillip S. Meilinger, *Airwar: Theory and Practice*, Frank Cass, London, 2003, pp. 170-86.

[25] For an alternative 'post-modern' sea power strategy see Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, Routledge, London, 2009, pp. 1-19.

  - defensive counter air (including air defence of merchant shipping, convoys and maritime forces)
- maritime air support (surface forces):
  - maritime strike and interdiction
  - maritime ISR
  - over-the-horizon targeting
  - submarine warfare:
  - close and distant anti-submarine warfare support
  - anti-submarine offensive operations (including hunter-killer)
  - submarine support operations
- mine warfare (sea mines):
  - mine laying and mine clearing
- inter-theatre air mobility (or strategic airlift):
  - vertical replenishment (aerial resupply at sea)
- utility support

Again a proportion of these air power tasks can and should be undertaken by air power elements other than an air force. For example, the RAAF, the RAN's Fleet Air Arm and naval air defence systems contribute to these tasks.

AIR POWER

Air power has always been a difficult concept to define. During the 1930s, John Slessor of the Royal Air Force (RAF) defined air power in broad terms as 'a compound of Air Forces and all those things on which Air Forces directly or indirectly depend, such as flourishing aircraft industry and civilian aviation, a good meteorological service, secure fuel supplies and so on.' This broader definition of air power has evolved over time and today it is more common to limit our understanding of air power to the specific effects that may be generated in the third-dimension. Hence the modern RAF definition for air power describes it as 'the ability to project power from the air and space to influence the behaviour of people or the course of events.' The current RAAF definition is even more constrained, air power is 'the ability to create or enable the creation of effects by or from platforms using the atmosphere for manoeuvre.'[26] Some thinkers, such as Winston Churchill, have suggested that air power is a broad concept that defies a simple definition. Perhaps the truth is that after only 100 years of military air operations our understanding of air power is still in the formative stages.[27]

It is obvious that airmen need to understand the application of air power as a subset of military power in situations where air is the key force and is supported by sea and land power. The first heavier-than-air military flights were undertaken in 1908, and the first military air operations were conducted in 1911, hence much of the history of air power is less than 100 years old. For much of this time the application of air power has been subordinate to that of land or sea power, however, there have been numerous campaigns, particularly since 1990, where air power was the key force in the application of military power. We have already seen how air power has contributed to land and sea campaigns, so we now only need to consider how air power is applied in campaigns where air predominates. As aircraft operate in the third-dimension they have the unique ability to directly strike all of the enemy's COGs. Land power can only directly affect the enemy's deployed military forces on land. Sea power can directly affect the enemy's deployed military forces at sea, but can indirectly affect the enemy's deployed forces on land, their economy and their will to fight. In contrast the enemy's entire country is open to air power attacks. For the efficient application of air power the issue becomes one of 'targeting for effect', selecting which of the enemy's COGs are most important.

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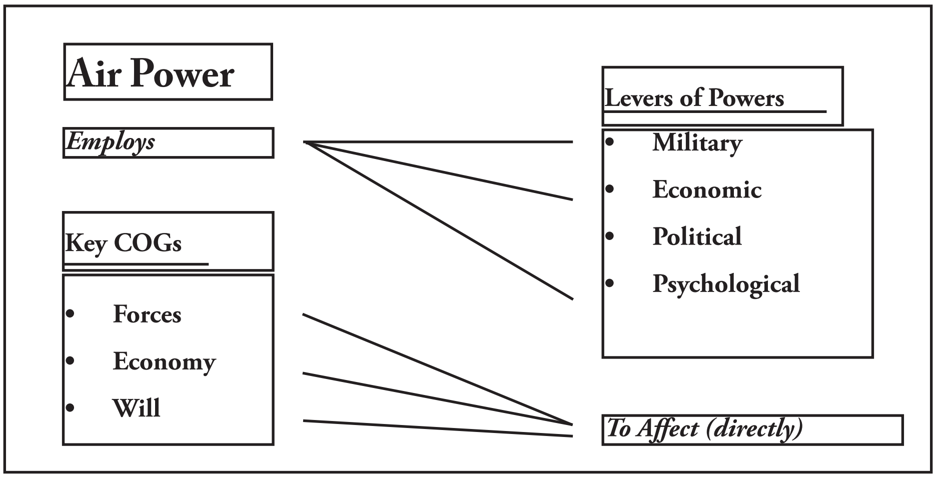
[26] See Royal Australian Air Force, *AAP 1000-D, The Air Power Manual*, Air Power Development Centre, Canberra, 2008.

[27] For background on the development of air power in the British and American contexts see Tony Mason, 'British Air Power', and Richard P. Hallion, 'U.S. Air Power', in John A. Olsen, *Global Air Power*, Potomac Books, Washington, DC, 2011.



Air Power (after Meilinger)[28]

Experience gained fighting in the air during World War I led to the rapid development of air power roles and tasks, essentially by learning in real time. Although the RNAS conducted several long-range air attacks against German resources, it was the German bomber campaign against Britain, commencing in the spring of 1915, which made the greatest contribution to air power during World War I. Following the most devastating of these air attacks on London, the British War Cabinet ordered a high level committee to examine 'the air organisation generally and the direction of aerial operations'. General Smuts led a small number of influential men to develop a vision for the future of air power and the Smuts Report was the Magna Carta of air power. It not only led to the formation of the RAF (and indirectly the RAAF) it provided the rationale for independent air forces worldwide: 'Unlike artillery, an air fleet can conduct extensive operations far from and independently of both Army and Navy.'

This was like a red rag to a bull for the other services, but the Smuts Report did not stop there, rather it took the bull by the horns. 'And the day may not be far off when aerial operations with their devastation of industrial and populous centres on a vast scale may become the principal operations of war, to which the older forms of military operations become secondary and subordinate'.

Much of air power history has been concentrated around independent air power directly targeting the vital centres of a nation's war-making capability and a nation's willingness to fight. In other words, air power has given priority to targeting the enemy's economy and will to achieve strategic effects. The German bomber campaign of World War I had considerable effect upon the morale of the British people, although the British will to fight tended to harden instead of weaken as a result. Overall however the German bomber campaign caused little actual physical damage. The conventional 'strategic' bombing campaigns of World War II were much more effective in destroying infrastructure, industry and population centres, but there is little evidence to show that an air campaign would have independently (in the absence of land and sea forces) led to the surrender of either of the major powers, Germany or Japan. Even after the destruction of much of Tokyo and the death of approximately 100 000 people during B-29 fire raids in March 1945, the Japanese Government did not contemplate surrender. The Allied plans for the invasion of Japan in 1945-46 relied upon land power as the key force with support from sea and air power. Of course the bombing of Hiroshima and Nagasaki with atomic bombs in August 1945 convinced the Japanese Emperor that further resistance was futile and thus precipitated the Japanese surrender.

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[28] Phillip S. Meilinger, *Airwar: Theory and Practice,* Frank Cass, London, 2003 pp. 170-86.

This proved that independent air power could indeed lead to an enemy's capitulation, provided one was prepared to cause rapid and indiscriminate destruction to enemy cities with nuclear weapons. The introduction of nuclear weapons should not detract us too much from the historical precedents. There are parallels in early societies where massacre of an enemy population was used to prevent future conflicts. The highlanders of New Guinea massacred neighbouring villagers. When the Ancient Greeks captured an enemy city it was common for them to execute all the adult men and place all the women and children into slavery. The Romans did likewise with whole regions, including Tunisia, Spain and Gaul, only to resettle them with Roman colonies and 'Romanised' peoples. We need not repeat the widespread slaughter of indigenous peoples that accompanied much of the European expansion over the last 400 years. The point needs to be made that, in times when a nation's survival is threatened, many of the moral limitations on the conduct of war that apply in peacetime may no longer apply. The formation of the United States Air Force (USAF) in 1947 and the generation of its Strategic Air Command, the most powerful weapon of war ever produced on this planet, acted as deterrents throughout the Cold War.[29] They effectively prevented nuclear war for 40 years; however air power alone could not prevent limited armed conflicts using conventional weapons.

Air power has been used as the key force in a number of campaigns, but experience has demonstrated that the application of air power needs to be supported by land and sea power, indirectly if not directly, to be most effective. Historically there have been numerous campaigns where air power has held primacy, including: the Battle of Britain 1940; the Combined Bomber Offensive (Europe) 1941-45; the SWPA Offensive 1942-45; the Bombing Campaign against Japan 1944-45; the Berlin Airlift 1948-49; the Taiwan Straits (Quemoy-Matsu) Fighting 1958; the Six Day War 1967; Linebacker I and II 1972; Libyan Raid 1986; the Gulf War 1990-91; Bosnia 1995; Kosovo 1999; and Afghanistan 2001-02. Since 1990, whenever air power has been used as the key element of military power, 'victory' has been gained, although it should now also be clear to most observers that military victory has never guaranteed political success in the long-term. Many military strategists have now recognised that the Western Approach to War has evolved into one where air power has become the key force in the application of military power. However, much of Western society—especially that represented by politicians, the media and die-hard military traditionalists—has retained its faith in 'boots on the ground'. It need only be stated that over the last 20 years whenever land power has been used as the key force in the application of military power, the West has become bogged-down in armed conflicts that were unwinnable.

For the sake of completeness, it is necessary to identify the ways that air power may be used as the key force in a campaign:

- air superiority:
  - offensive counter air
  - defensive counter air (including air defence for air bases)
- independent strike:
  - strategic maritime strike and interdiction
  - strategic land strike and interdiction
- ISR and electronic warfare:
  - ISR operations
  - electronic warfare operations
- inter-theatre air mobility (or strategic airlift)
- air sustainment:
  - command, control and communications

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[29] For background on the formation of the USAF and the Cold War, see Stephen L. McFarland, *A Concise History of the U.S. Air Force,* Air Force History & Museums Program, Washington, DC, 1997.

- basing and expeditionary support
- ground defence
- air logistics
- training and education
- administration

Again we should note that not only air forces contribute to the application of air power. During the 1990-91 Gulf War, the air campaign included aircraft from the USAF, the United States Navy, the United States Marine Corps, the United States Army, the RAF, the French Air Force, the Canadian Air Force, and from at least five Arab states.

> *Methods of war change, but the principles of war—the essence of war—have not changed since Miltiades repulsed the Persians on the Plains of Marathon.*
>
> —Colonel John A. Warden III [30]

THE JOINT APPROACH

Over the last 100 years or so, the Western experience of war has demonstrated that combinations of air, land and sea power are capable of achieving more if used in combination than would be possible if the individual military powers were applied separately. This joint approach to warfighting is now a fundamental tenet within many armed forces, and joint operations have become the norm.

> *Warfighting remains the core competency of the ADF. The future force must be able to win conflicts and secure the peace in complex operating environments. All our operations will be joint. We must strive to go beyond operating jointly to operating in the seamless manner described in Force 2020. This will maximise our collective warfighting capabilities and specialisations.*
>
> —Chief of Defence Force 2007 [31]

The concept sounds great, but what do we mean when we talk about the joint approach to warfighting? And how is the joint approach applied in practice? One viewpoint is that joint operations require the seamless application of individual air, land and sea missions, in an almost limitless number of inter-dependant combinations, to attain the nation's desired outcomes (or effects). In practice such mission combinations are possible for relatively simple military operations, however as complexity increases, this ideal of a seamless joint approach becomes increasingly unfeasible. For many campaigns, limitations arise due to capacity issues such as coordinating the very large number of missions undertaken at any one time, and people issues, such as the inability of staff officers to develop professional mastery in each of the services.

An alternative view of the joint approach better reflects past experience in the execution of joint campaigns. In recent US-led campaigns the Americans have employed a Joint Force Commander (JFC) who coordinates the activities of subordinate environmental commanders (Joint Force Air Component, Land Component and Maritime Component Commanders). In effect, many of the recent joint operations have involved cooperation in the application of air, land and sea power elements to achieve a range of strategic effects. Each JFC gives priority to a particular strand of military power to succeed in the campaign. For example, it would be fair to say that since the first sizeable deployment of US Army troops to Afghanistan in 2002, Operation Enduring Freedom has been a joint campaign, with land power being the key force in the application of military power. Air and sea power have made significant contributions to the war in Afghanistan but they are not considered the central element in that conflict. In contrast, Operation Unified Protector, the 2011 conflict in Libya, witnessed the JFC (Lieutenant-General Bouchard of the Canadian Air Force) coordinating the actions of NATO air, maritime and land component commanders in a joint campaign in which air power was the key military force. Sea power also made a significant but supporting contribution in the Libyan conflict, while it was NATO policy not to employ land power in Libya itself.

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[30] John A. Warden, *The Air Campaign,* NDU Press, 1988, p. 143.

[31] Chief of the Defence Force, *Joint Operations for the 21st Century,* ADF, Canberra, 2007.

The discussion so far would suggest that a joint approach to warfighting requires a commander to decide whether air, land or sea power should be the key military force for the proposed campaign and then to give priority to that key or central element of military power—to select a strand of military power for success. This decision is based upon what objectives and outcomes are most important and how it is thought best to achieve them.

The joint approach would then be to ensure that the other elements of military power support the key element, as seamlessly as possible, throughout the campaign to achieve the desired effects—of course, this is an oversimplification. Von Moltke the Elder warned that 'no plan survives contact with the enemy.' Circumstances do change over time and it may be necessary to adapt the joint approach accordingly. In past military campaigns, commanders have at times adapted to changing situations by modifying the key military force in their campaign. In essence, a joint campaign may involve management of three strands of military power over time, with air, land and sea power being the key force for a particular time and circumstance. For example, during World War II, there were a number of phases in General MacArthur's South West Pacific campaign. Initially land power was used as the key force in a battle of attrition in Papua. In late 1942 MacArthur adapted his joint approach by using air power as the key element in his campaign. From mid 1943 until the end of the war, MacArthur conducted a series of decisive amphibious operations across the SWPA to the Philippines. While air power remained the key force, sea and land power were also critical elements during the landing operations.

In order to achieve the desired strategic effects, the JFC must decide when and where to use air, land and sea power as the key military force. This is the fundamental part of military strategy—the ways, means and ends. Once decided it has to be articulated and understood by the national strategic and the military strategic leadership. The strategic leaders have to raise, train and sustain suitably balanced forces that enable a JFC to select the most suitable joint approach to warfighting that will best achieve the desired strategic effects.

EXPERIENCE IN ACHIEVING DESIRED EFFECTS

For many thousands of years societies have used violent and non-violent means to achieve their desires. History provides us with a large sample space on how power has been used in the past to influence the behaviour of people or the course of events—how the means has achieved the desired ends. Perhaps more importantly, a good knowledge and understanding of military history may help us to fine tune our professional decision-making skills so that we can learn from experience and avoid the costly mistakes of the past.

As an example, there has been much discussion recently on the effectiveness of air power being used to target individuals. Most recently there have been suggestions that the Libyan leader Muammar Gaddafi and his family were specifically targeted by NATO air power. Not so long ago, Osama bin Laden was 'taken out' using US Special Forces in combination with air power. Much of this discussion is based upon recent experience of targeted killings or assassinations, although the historical record on such actions goes back thousands of years: the word assassins is itself derived from the Persian Nizari Ismailis, who were powerful c.1080 AD. From Biblical times to the present, assassinations have been used as a tool of power politics. To understand the likely effects of an assassination we should examine the type of actual effects that have been generated in the past. In most situations, targeted killing (or assassination) has either not led to significant effects, as one individual is readily replaced by another, or has led to decisions that react in a way that is the opposite to the desired effects. For example, the targeting of Admiral Yamamoto in 1943 did not lead to significant changes in the Japanese Navy's general conduct of the Pacific War. In ancient Rome, the death of Julius Caesar did not cause a return to Republican virtues—rather it led to the permanent dictatorship of the Roman Empire. The assassination of Abraham Lincoln in April 1865 did not stop the end of slavery in the United States—total abolition of slavery was finalised by the Thirteenth Amendment later the same year, in December 1865.

Planning for specific effects is always a complex business, one where a thorough understanding of our own and the enemy's military cultures is essential. The effects generated by a joint campaign are never simple and care is required to ensure that the full strategic implications are considered from the broadest perspective possible. Here the air power perspective is often beneficial compared with the traditionally narrower perspectives of our land and sea power brethren. As mentioned previously, the 1944-45 North-West Europe campaign was essentially a land campaign where air power was used in support of the ground offensive. Air power allowed the Allies to use the air to their own advantage and to deny the Germans the use of the air. Air power was used 'tactically': to destroy the German army troops, tanks and vehicles on the ground; to cut-off Germans forces using interdiction (preventing the movement of troops, equipment and supplies on trains, roads and riverways); to prevent German air attacks on the Allied invasion forces; and to destroy German command, control and communication centres.[32]

If we look behind the front line, the Allied invasion at Normandy could only take place because of the massive sealift of forces across the Atlantic. Air power in support of sea power was critical to the victory gained over the German submarines and ultimately to Allied success in the Battle of the Atlantic. A third front associated with the North-West Europe campaign was fought by the Combined Bombing Offensive over Germany. From 1943 until just before the end of the war in Europe, aircraft of RAF Bomber Command and the United States 8th Air Force struck targets in Germany directly, in an effort to destroy Nazi Germany's ability and will to fight. These attacks also forced the German Luftwaffe to concentrate their aircraft and air defences over Germany. By doing so, the Combined Bombing Offensive effectively destroyed much of the Luftwaffe in the skies above Germany itself, and the Allies gained air superiority over North-West Europe prior to the start of the invasion of Normandy in June 1944. The overwhelming air superiority of the Allied Air Forces over Normandy coupled with the Luftwaffe's no-show contributed greatly to Allied success in North-West Europe. A large proportion of the German ground forces were destroyed by Allied air power before they came into contact with Allied ground troops; air power was decisive.

Imagine what would have happened if 50 per cent of the enemy ground forces were destroyed by air power prior to the Normandy invasion. It would have been a walk over—more of a police action than an example of attrition warfare. Although the technology to achieve 50 per cent attrition of ground forces with air power was not available to the Allies in 1943, it certainly was possible by 1990. During the 1990-91 Gulf War, the air campaign plan called for a 50 per cent reduction in the strength of Iraqi ground forces, and this was achieved in just 38 days. When Coalition ground forces commenced their offensive on 24 February, the Iraqi forces were already defeated. Land and sea power were used in support of air power to meet the strategic objectives of the campaign. The obvious question is that if it is possible to reduce enemy ground forces by 50 per cent, why not reduce them by 80, 90 or even 100 per cent? For this reason, since 1990, air power has taken its place, alongside land and sea power, as one of the political options for use in armed conflict. Over the last twenty years, air power has become the key force in many military campaigns with sea and land power applied in support. Air power has come of age and the application of military power has indeed changed forever.

The idea of war waged against a whole people, rather than merely its deployed forces (its Army or Navy) did not start with the Combined Bombing Offensive of World War II, or even the bombing raids of World War I. It dates to the beginning of recorded history itself. Sieges and naval blockades are very effective ways of applying pressure directly upon an opponent's industries, economy, civilian population and their political leaders, but their effects are largely indirect. They generally take years not months to be effective and the effects are both wide-ranging and indiscriminate. For example, in Germany during World War II, it is estimated that hundreds of thousands of people died prematurely due to malnutrition, or lack of medicines and medical treatment. Similar figures have been estimated for Iraq over the last 30 years. Air strike, on the other hand, can not only act directly upon an opponent's industries, economy, civilian population and leadership, but it can do so with immediate and direct effect.

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[32] Richard P. Hallion, D-Day 1944: Air Power over the Beaches and Beyond, Air Force History & Museums Program, Washington, DC, 1994.

> *All the characteristics of modern war—the blurring of the line between battlefield and society, the engulfing of women and children in the violence of war, the destruction of society's infrastructure, the uprooting of entire populations—were anticipated in ancient siege warfare …*
>
> —Paul B. Kern [33]

JOINT FORCE COMMAND IN THE ADF

If the Western Approach to War is now characterised by air power as the key force with sea and land power in support, why is it that the ADF continues to plan and conduct operations as if land power is still the only key element? One of our Army colleagues might suggest: 'Only those who are trained and experienced in the Profession of Arms will ever be in a position to actually command ADF operations. In practice this means an Army General is the logical choice for a Joint Force Commander and they will rely upon expertise of their professional maritime and air force component commanders to provide advice on sea and air power.'

This is a common ADF perception, one which reflects the reality that the majority of RAAF (and RAN) men and women specialise in their own field of expertise (they have technical mastery) and frequently have limited education in the Profession of Arms. The problem is that RAAF people, in particular, tend to view themselves as air power advisors to the joint fight rather than as equal-but-specialised members of a joint profession. Australian Air Force officers might be asked to provide air power advice, but they have rarely been able to command military power with influence. The inevitable result is that land power dominates the ADF's approach to war and this does not necessarily generate the best outcomes for Australia. To be a strategic force, the RAAF needs its people to understand the totality of warfare. They have to be at least equal to members of the other services in the Profession of Arms.

At the operational level, the composition of a Joint Task Force (JTF) is largely determined by the mission and situation and is outlined in the Chief of the Defence Force order establishing the force. This order also details the broad command and control arrangements for the operation and assigned force elements. A JTF is established when a mission requires two or more Services operating together on a significant scale and requiring close integration of effort. Joint operations should be commanded by an officer that has the most appropriate background to suit the operation and this may mean changing command between services as the operation progresses. Although there is no doctrinal reason why a Commander JTF should be from the Australian Army, historically the Chief of Defence Force has selected an Army officer to command almost all Australian JTFs whenever land power has been applied. Invariably this results in a joint campaign or operation that has land power as the key element with air and/or maritime power in support. Consideration of the relatively small number of JTF commanders from Air Force and/or Navy who have been appointed to conduct operations only emphasises the above point. Such Air Force/Navy commands have almost never had land forces assigned, rather they have tended to be in command of their own assigned Air Force/Navy units. For instance, in the past, RAAF JTF commanders have commanded humanitarian/disaster relief operations, and RAN JTF commanders have command maritime barrier operations.

What does this mean for the ADF? In practice, the option to use air or sea power as the key element in a joint campaign is often lost without any conscious effort to do so. The fall back position of conducting a joint campaign in which land power is key tends to predominate. Thus the routine joint force command decision-making processes within the ADF can at times undervalue or ignore the impact of air power. The role of education in the development of RAAF personnel for ADF joint force command is worthy of further investigation and debate. It could easily warrant its own working paper. The point is raised here only to highlight the need for ADF leaders to be able to advise and influence others by articulating how military power—not just air power—can and should be applied.

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[33] Paul B. Kern, Ancient Siege Warfare, Indiana University Press, Bloomington, 1999.

> *… we are doing a disservice to the nation by not capitalizing on all our capability and by not making sure that members of the defense community and the public at large know what the air force can offer …*
>
> —Colonel John A. Warden III [34]

CONCLUSION

There are a number of points that arise from this discussion on the history of war and armed conflict that are relevant to those serving in the RAAF today. How relevant they are to individual airmen will depend upon their experience, duties and interests, but as such information helps us understand our core business you never know when this material may be useful.

To summarise:

- War and conflict are as old as human-kind, and war has always been a human enterprise.
- Human history is enduring. The experiences of the past are a valuable source of information that can help inform current and future events.
- Understanding conflict and how we apply military force is fundamental to the *Profession of Arms* as well as to attaining *Professional Mastery* within the RAAF.
- The *Profession of Arms* can trace its history back at least to 3000 BC.
- *Professional Mastery* includes a knowledge and understanding of the application of air, sea and land power in their Australian, regional and global contexts.
- The ADF requires Air Force leaders who can advise and influence others by articulating how military power can and should be applied.

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